

107089603

JC10 Rec'd PCT/PTO 01 APR 2002

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Ayman MOKDAD et al.

U.S. Patent Appln. No.: New U.S. Patent Appln.  
based on International Appln. No. PCT/FR01/02598

Filed: April 1, 2002

Attorney Dkt. No.: 01200.579

For: DIAPHRAGM ASSIST SPRING FOR MOTOR VEHICLE ENGINE CLUTCH  
MECHANISM

PRELIMINARY AMENDMENT

Commissioner for Patents  
Washington, D.C. 20231

April 1, 2002

Sir :

Prior to the prosecution of the above-captioned application, please enter the following amendments.

IN THE TITLE:

Please add the following Title as follows:

DIAPHRAGM ASSIST SPRING FOR MOTOR VEHICLE ENGINE CLUTCH  
MECHANISM

IN THE ABSTRACT:

Please add the following Abstract as follows:

A diaphragm clutch mechanism for a motor vehicle engine having a friction lining adapted to be clamped with an annular diaphragm between a reaction plate and a pressure plate. A cover fixed to the reaction plate and integral in rotation with the pressure plate which is also mobile in axial translation relative to the reaction plate, and an assist mechanism includes a Belleville washer which co-operates with the diaphragm so that the load exerted on the pressure plate should be substantially constant whatever the degree of wear of the friction lining when the clutch mechanism is in engaged position. The assist

Belleville washer is supported on the diaphragm or on the cover that forms a front stop. The assist Belleville washer is supported on a rear stop borne by the cover so as to be slightly stressed when the clutch mechanism is in the released position.

**IN THE CLAIMS:**

Please amend claims 3, 4, 5, 7, 8, 10, 12, 14, 19, 21, 22 and 24 as follows:

3. (Amended) A diaphragm clutch mechanism according to Claim 1 wherein, when the clutch mechanism (1) is in a disengaged position, the Belleville assistance ring (B) applies no force on the diaphragm (10).

4. (Amended) A clutch mechanism according to claim 1, wherein the mechanism includes two centring members selected from three possible centring members, for centring between one of; the cover plate (12) and diaphragm (10), and between the diaphragm (10) and the Belleville assistance ring (B), and between the cover plate (12) and the Belleville assistance ring (B).

5. (Amended) A diaphragm clutch mechanism according to claim 1, wherein the Belleville assistance ring (B) is mounted between the pressure plate (7) and the cover plate (12), and in that the Belleville assistance ring (B) has radially external lugs (24) which are bent back to define hooks (25) that surround the peripheral portion (10a) of the diaphragm with a clearance when the clutch mechanism (1) is in a disengaged position.

7. (Amended) A diaphragm clutch mechanism according to claim 1, wherein the Belleville assistance ring (B) is mounted on the outside of the cover plate (12), in that it includes radially external lugs defining hooks (45) that extend through apertures (47) formed through the cover plate, so as to come into engagement with the diaphragm (10), and in that the Belleville assistance ring (B) engages on the external wall of the cover plate (12) through an abutment bead (48).

8. (Amended) A diaphragm clutch mechanism according to Claim 5 wherein, the Belleville assistance ring (B) is frustoconical in form with a minor base and a major base, in that the minor base is in permanent abutment on the diaphragm (10) at points situated in the

vicinity of the points of articulation of the diaphragm (10), and in that the major base bears on the internal wall of the cover plate (12) when the clutch mechanism is in a disengaged position.

10. (Amended) A diaphragm clutch mechanism according to any one of Claim 1 wherein, the Belleville assistance ring (B) is mounted between the pressure plate (7) and cover plate (12), in that the Belleville assistance ring (B) includes radially external lugs (35) which are bent back at substantially 90° and each of which terminates in a driving foot (37), and in that the said external lugs (35) are adapted to be lodged within notches (40) formed at the periphery of the diaphragm (10).

12. (Amended) A diaphragm clutch mechanism according to Claim 10, wherein the external lugs (35) of the Belleville assistance ring (B) are fitted by elastic deformation within notches (40) of the diaphragm (10).

14. (Amended) A diaphragm clutch mechanism according to claim 10, wherein the Belleville assistance ring (B) includes radially internal lugs (39) which are bent back outwards in a direction away from that of the radially external lugs (35), and in that the said internal lugs (39) are engaged freely within oblong radial apertures (42) formed through the cover plate (12), with the said internal lugs (39) centring the Belleville assistance ring (B) with respect to the cover plate.

19. (Amended) A diaphragm clutch mechanism according to claim 16, wherein the forward abutment consists of an external wall of the cover plate (12), or is fixed to the said external wall, and in that the rear abutment on which the Belleville assistance ring (B) bears when the clutch mechanism (1) is in a disengaged position, consists of an internal wall of the cover plate (12) or is fixed with respect to the said internal wall.

21. (Amended) A diaphragm clutch mechanism according to claim 16, wherein the clutch mechanism includes a mechanism for centring the Belleville assistance ring (B) and cover plate (12), the mechanism for centring including radially internal lugs (59) of the Belleville assistance ring (B), the lugs (59) being bent back so as to penetrate freely into apertures (60) in the cover plate (12).

22. (Amended) A diaphragm clutch mechanism according to claim 1, wherein the Belleville assistance ring (B) is provided with eyelets (64) spaced apart over its periphery and constituting seatings for radial lugs (66) which are extensions of the periphery of the diaphragm (10).

24. (Amended) A diaphragm clutch mechanism according to claim 1, wherein the Belleville assistance ring (B) bears on the rear abutment carried by the cover plate (12) regardless of the position of the clutch mechanism (1).

REMARKS

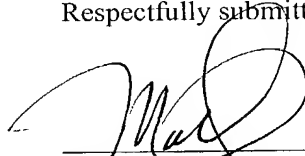
Claims 1-32 are pending in the application. By this Amendment, Claims 3, 4, 5, 7, 8, 10, 12, 14, 19, 21, 22 and 24 have been amended to delete multiple dependency. Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. A title has been added to the specification. In addition, Applicants are submitting herewith an Abstract in accordance with U.S. practice. The Title and Abstract have been taken directly from the corresponding International Application. A clean copy of the Abstract is provided on a separate sheet of paper herewith.

The attached page is captioned "Version with markings to show changes made".

No new matter has been introduced.

Applicants believe that no fee is required for this submission. However, should a fee be due, please charge such fee to Deposit Account No. 50-0548.

Respectfully submitted,



Matthew Johnston  
Registration No. 41,096

LINIAK, BERENATO, LONGACRE & WHITE  
6550 Rock Spring Drive  
Suite 240  
Bethesda, Maryland 20817  
Telephone: (301) 896-0600  
Facsimile: (301) 896-0607

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Ayman MOKDAD et al.

U.S. Patent Appln. No.: New U.S. Patent Appln.  
based on International Appln. No. PCT/FR01/02598

Filed: April 1, 2002

Attorney Dkt. No.: 01200.579

For: DIAPHRAGM ASSIST SPRING FOR MOTOR VEHICLE ENGINE CLUTCH  
MECHANISM

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Commissioner for Patents  
Washington, D.C. 20231

April 1, 2002

Sir :

Prior to the prosecution of the above-captioned application, please enter the following amendments.

IN THE TITLE:

Please add the following Title as follows:

DIAPHRAGM ASSIST SPRING FOR MOTOR VEHICLE ENGINE CLUTCH  
MECHANISM

IN THE ABSTRACT:

Please add the following Abstract as follows:

A diaphragm clutch mechanism for a motor vehicle engine having a friction lining adapted to be clamped with an annular diaphragm between a reaction plate and a pressure plate. A cover fixed to the reaction plate and integral in rotation with the pressure plate which is also mobile in axial translation relative to the reaction plate, and an assist mechanism includes a Belleville washer which co-operates with the diaphragm so that the load exerted on the pressure plate should be substantially constant whatever the degree of

wear of the friction lining when the clutch mechanism is in engaged position. The assist  
Belleville washer is supported on the diaphragm or on the cover that forms a front stop. The  
assist Belleville washer is supported on a rear stop borne by the cover so as to be slightly  
stressed when the clutch mechanism is in the released position.



**IN THE CLAIMS:**

Please amend claims 3, 4, 5, 7, 8, 10, 12, 14, 19, 21, 22 and 24 as follows:

3. (Amended) A diaphragm clutch mechanism according to Claim 1 [or Claim 2, characterised in that,] wherein, when the clutch mechanism (1) is in a disengaged position, the Belleville assistance ring (B) applies no force on the diaphragm (10).

4. (Amended) A clutch mechanism according to [any one of the preceding Claims, characterised in that it] claim 1, wherein the mechanism includes two centring [means] members selected from three possible centring [means] members, [namely means] for centring [as] between one of the cover plate (12) and diaphragm (10), [or] and between the diaphragm (10) and the Belleville assistance ring (B), [or] and between the cover plate (12) and the Belleville assistance ring (B).

5. (Amended) A diaphragm clutch mechanism according to [any one of the preceding Claims, characterised in that] claim 1, wherein the Belleville assistance ring (B) is mounted between the pressure plate (7) and the cover plate (12), and in that the Belleville assistance ring (B) has radially external lugs (24) which are bent back to define hooks (25) that surround the peripheral portion (10a) of the diaphragm with a clearance when the clutch mechanism (1) is in a disengaged position.

7. (Amended) A diaphragm clutch mechanism according to [any one of the preceding Claims, characterised in that] claim 1, wherein the Belleville assistance ring (B) is mounted on the outside of the cover plate (12), in that it includes radially external lugs defining hooks (45) that extend through apertures (47) formed through the cover plate, so as to come into engagement with the diaphragm (10), and in that the Belleville assistance ring (B) engages on the external wall of the cover plate (12) through an abutment bead (48).

8. (Amended) A diaphragm clutch mechanism according to Claim[s] 5 [to 7, characterised in that] wherein, the Belleville assistance ring (B) is frustoconical in form with a minor base and a major base, in that the minor base is in permanent abutment on the diaphragm (10) at points situated in the vicinity of the points of articulation of the diaphragm (10), and in that the major base bears on the internal wall of the cover plate (12) when the clutch mechanism is in a disengaged position.

10. (Amended) A diaphragm clutch mechanism according to any one of Claim[s] 1 [to 3, characterised in that] wherein, the Belleville assistance ring (B) is mounted between the pressure plate (7) and cover plate (12), in that the Belleville assistance ring (B) includes radially external lugs (35) which are bent back at substantially 90° and each of which terminates in a driving foot (37), and in that the said external lugs (35) are adapted to be lodged within notches (40) formed at the periphery of the diaphragm (10).

12. (Amended) A diaphragm clutch mechanism according to Claim 10[or Claim 11, characterised in that] wherein the external lugs (35) of the Belleville assistance ring (B) are fitted by elastic deformation within notches (40) of the diaphragm (10).

14. (Amended) A diaphragm clutch mechanism according to [any one of Claims 10 to 13, characterised in that] claim 10, wherein the Belleville assistance ring (B) includes radially internal lugs (39) which are bent back outwards in a direction away from that of the radially external lugs (35), and in that the said internal lugs (39) are engaged freely within oblong radial apertures (42) formed through the cover plate (12), with the said internal lugs (39) centring the Belleville assistance ring (B) with respect to the cover plate.

19. (Amended) A diaphragm clutch mechanism according to [any one of Claims 16 to 18, characterised in that] claim 16, wherein the forward abutment consists of an external wall of the cover plate (12), or is fixed to the said external wall, and in that the rear abutment

on which the Belleville assistance ring (B) bears when the clutch mechanism (1) is in a disengaged position, consists of an internal wall of the cover plate (12) or is fixed with respect to the said internal wall.

21. (Amended) A diaphragm clutch mechanism according to [any one of Claims 16 to 20, characterised in that] claim 16, wherein [it includes means] the clutch mechanism includes a mechanism for centring the Belleville assistance ring (B) and cover plate (12), the [said means consisting of] mechanism for centring including radially internal lugs (59) of the Belleville assistance ring (B), the [said] lugs (59) being bent back so as to penetrate freely into apertures (60) in the cover plate (12).

22. (Amended) A diaphragm clutch mechanism according to [any one of Claims 1 to 4, characterised in that] claim 1, wherein the Belleville assistance ring (B) is provided with eyelets (64) spaced apart over its periphery and constituting seatings for radial lugs (66) which are extensions of the periphery of the diaphragm (10).

24. (Amended) A diaphragm clutch mechanism according to [any one of the preceding Claims, characterised in that] claim 1, wherein the Belleville assistance ring (B) bears on the rear abutment carried by the cover plate (12) regardless of the position of the clutch mechanism (1).